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<110> Grainger, David J.
      Tatalick, Lauen Marie
      Kanaly, Suzanne T.

<120> Compounds and Methods to Inhibit or Augment an Inflammatory Response

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<141> 1998-09-11

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Thr Cys Cys Tyr Asn Phe Thr Asn Arg Lys Ile Ser Val Gln Arg Leu
            35   40   45
Ala Ser Tyr Arg Arg Ile Thr Ser Ser Lys Cys Pro Lys Glu Ala Val
        50   55   60
Ile Phe Lys Thr Ile Val Ala Lys Glu Ile Cys Ala Asp Pro Lys Gln
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Pro Lys Thr

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Thr Asn Ile Gln Cys Pro Lys Glu Ala Val Ile Phe Lys Thr Lys Arg
            35   40   45
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            35   40   45
Glu Ser Tyr Arg Arg Thr Thr Ser Ser His Cys Pro Arg Glu Ala Val
        50   55   60
Ile Phe Lys Thr Lys Leu Asp Lys Glu Ile Cys Ala Asp Pro Thr Gln
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Cys Cys Phe Ser Tyr Thr Ser Arg Gln Ile Pro Gln Asn Phe Ile Ala
             35                  40                  45
Asp Tyr Phe Glu Thr Ser Ser Gln Cys Ser Lys Pro Gly Val Ile Phe
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             35                  40                  45
Val Asp Tyr Tyr Glu Thr Ser Ser Leu Cys Ser Gln Pro Ala Val Val
        50                  55                  60
Phe Gln Thr Lys Arg Ser Lys Gln Val Cys Ala Asp Pro Ser Glu Ser
65                  70                  75                  80
Trp Val Gln Glu Tyr Val Tyr Asp Leu Glu Leu Asn
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<213> Homo sapiens

<400> 21
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             35                  40                  45
Glu Tyr Phe Tyr Thr Ser Gly Lys Cys Ser Asn Pro Ala Val Val Phe
        50                  55                  60
Val Thr Arg Lys Asn Arg Gln Val Cys Ala Asn Pro Glu Lys Lys Trp
65                  70                  75                  80
Val Arg Glu Tyr Ile Asn Ser Leu Glu Met Ser
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            20   25   30
Arg Phe Phe Glu Ser His Val Ala Arg Ala Asn Val Lys His Leu Lys
        35   40   45
Ile Leu Asn Thr Pro Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys
    50   55   60
Asn Asn Asn Arg Gln Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln
65   70   75   80
Glu Tyr Leu Glu Lys Ala Leu Asn Lys
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<210> 23
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<213> Homo sapiens

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Arg Cys Gln Cys Ile Lys Thr Tyr Ser Lys Pro Phe His Pro Lys Phe
        35   40   45
Ile Lys Glu Leu Arg Val Ile Glu Ser Gly Pro His Cys Ala Asn Thr
    50   55   60
Glu Ile Ile Val Lys Leu Ser Asp Gly Arg Glu Leu Cys Leu Asp Pro
65   70   75   80
Lys Glu Asn Trp Val Gln Arg Val Val Glu Lys Phe Leu Lys Arg Ala
                85   90   95
Glu Asn Ser

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        35   40   45
Leu Gln Gly Ile His Pro Lys Asn Ile Gln Ser Val Asn Val Lys Ser
    50   55   60
Pro Gly Pro His Cys Ala Gln Thr Glu Val Ile Ala Thr Leu Lys Asn
65   70   75   80
Gly Arg Lys Ala Cys Leu Asn Pro Ala Ser Pro Ile Val Lys Lys Ile
                85   90   95
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Cys Phe Asn Leu Ala Asn Arg Lys Ile Pro Leu Gln Arg Leu Glu Ser
        35   ·   40   45
Tyr Arg Arg Ile Thr Ser Gly Lys Cys Pro Gln Lys Ala Val Ile Phe
    50   55   60
Lys Thr Lys Leu Ala Lys Asp Ile Cys Ala Asp Pro Lys Lys Lys Trp
65   70   75   80
Val Gln Asp Ser Met Lys Tyr Leu Asp Gln Lys Ser Pro Thr Pro Lys
            85   90   95
Pro

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Thr Cys Cys Tyr Ser Phe Thr Ser Lys Met Ile Pro Met Ser Arg Leu
        35   40   45
Glu Ser Tyr Lys Arg Ile Thr Ser Ser Arg Cys Pro Lys Glu Ala Val
    50   55   60
Val Phe Val Thr Lys Leu Lys Arg Glu Val Cys Ala Asp Pro Lys Lys
65   70   75   80
Glu Trp Val Gln Thr Tyr Ile Lys Asn Leu Asp Arg Asn Gln Met Arg
            85   90   95
Ser Glu Pro Thr Thr Leu Phe Lys Thr Ala Ser Ala Leu Arg Ser Ser
            100   105   110
Ala Pro Leu Asn Val Lys Leu Thr Arg Lys Ser Glu Ala Asn Ala Ser
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Leu Cys Leu Leu Leu Met Thr Ala Ala Phe Asn Pro Gln Gly Leu Ala
             10                  15                  20

cag cca gat gca ctc aac gtc cca tct act tgc tgc ttc aca ttt agc        150
Gln Pro Asp Ala Leu Asn Val Pro Ser Thr Cys Cys Phe Thr Phe Ser
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agt aag aag atc tcc ttg cag agg ctg aag agc tat gtg atc acc acc        198
Ser Lys Lys Ile Ser Leu Gln Arg Leu Lys Ser Tyr Val Ile Thr Thr
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agc agg tgt ccc cag aag gct gtc atc ttc aga acc aaa ctg ggc aag        246
Ser Arg Cys Pro Gln Lys Ala Val Ile Phe Arg Thr Lys Leu Gly Lys
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gag atc tgt gct gac cca aag gag aag tgg gtc cag aat tat atg aaa        294
Glu Ile Cys Ala Asp Pro Lys Glu Lys Trp Val Gln Asn Tyr Met Lys
             75                  80                  85

cac ctg ggc cgg aaa gct cac acc ctg aag act tgaactctgc tacccctact      347
His Leu Gly Arg Lys Ala His Thr Leu Lys Thr
             90                  95

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                      1               5                  10
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8

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            15                  20                  25

tac aga tgc cca tgc cga ttc ttc gaa agc cat gtt gcc aga gcc aac        208
Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser His Val Ala Arg Ala Asn
            30                  35                  40

gtc aag cat ctc aaa att ctc aac act cca aac tgt gcc ctt cag att        256
Val Lys His Leu Lys Ile Leu Asn Thr Pro Asn Cys Ala Leu Gln Ile
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gta gcc cgg ctg aag aac aac aac aga caa gtg tgc att gac ccg aag        304
Val Ala Arg Leu Lys Asn Asn Asn Arg Gln Val Cys Ile Asp Pro Lys
60                  65                  70                  75

cta aag tgg att cag gag tac ctg gag aaa gct tta aac aag agg ttc        352
Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn Lys Arg Phe
                80                  85                  90

aag atg tgagagggtc agacgcctga ggaacccta cagtaggagc ccagctctga        408
Lys Met


aaccagtgtt agggaagggc ctgccacagc ctcccctgcc agggcagggc cccaggcatt        468
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9

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10

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tgcaaggcac tcatctgatt tctcaaacag ctcacgcttt ggaaagtgaa acctacctca    1800
ctcgttaaaa attaaaagga gcacaagagg ggagagggaa attccaagtt catgggtcac    1860
aataaacaca agcaatgccc tcggtttaca ggggacttcc ctcgggttgc ggagccttgc    1920
tgagtcatct ccaaagtcag ccaatcagga ctcagggagg gaaactcttt gcagataaat    1980
actcctcagc agccggcact cgagaagcgc ttcatccacc gctgagagac atcccgagcc    2040
aaccttccgg aagcctcccc atcagcacc atg aac cca agt gct gcc gtc att    2093
                                  Met Asn Pro Ser Ala Ala Val Ile
                                  1                 5

ttc tgc ctc atc ctg ctg ggt ctg agt ggg act caa g gtaagggaca        2140
Phe Cys Leu Ile Leu Leu Gly Leu Ser Gly Thr Gln
    10                  15                  20

ccaaggccat ttaattaacg aagtcagaag tcagacgatt aagctcagtt ctaaacacag    2200
catgtattta agctttaatg tgtgtaccta taaagaagag ggaagcagga agaaatccct    2260
tcagcttgca gagtttatca taggctggtt gaagtcagag aaaaatagaa taaaagaaaa    2320
ggaacgaaga agggaagaaa gggagaaaag gaggagggaa gaggaagaag agggaagag    2380
agagtcagga gaaagggcga aagagtggga tggggtaagg catggatgcc tccttgcctg    2440
agcctaacca atactgtgag cagtgcataa atgcaggatt tcgtaactga caagttgcag    2500
atctctcttt accatgacca agatattcaa acactcagcc ctatgatacg atgggatgcg    2560
tctctccaca gatcagacag ggtctgctaa acactacctc atccatttta agtgcctaaa    2620
atgaaaccgt gtgctgacct tcctggctct cccctctct tcctgcag gg atc cct    2676
                                                    Gly Ile Pro


ctc gca agg acg gtc cgc tgc aac tgc atc cat atc gat gac ggg cca    2724
Leu Ala Arg Thr Val Arg Cys Asn Cys Ile His Ile Asp Asp Gly Pro
    25                  30                  35

gtg aga atg agg gcc ata ggg aag ctt gaa atc atc cct gcg agc cta    2772
Val Arg Met Arg Ala Ile Gly Lys Leu Glu Ile Ile Pro Ala Ser Leu
    40              45              50                      55

tcc tgc cca cgt gtt gag atc at gtgagtacaa gcccacctgc cgataaacgt    2825
Ser Cys Pro Arg Val Glu Ile Ile
                60

ccctcccgta accacacagt aaataagtga gggaaaccag gaaagatggg gacgggtctg    2885
tgactctaac taaggcacag tgcctgaact ctgacatgga cctgcagggc catcagctct    2945
gttggcctga cgttaatctg agtatctcac tcttatttct atag t gcc acg atg    2999
                                                  Ala Thr Met
                                                  65


aaa aag aat gat gag cag aga tgt ctg aat ccg gaa tct aag acc atc    3047
Lys Lys Asn Asp Glu Gln Arg Cys Leu Asn Pro Glu Ser Lys Thr Ile
            70                  75                  80

aag aat tta atg aaa gcg ttt agc caa aaa ag gtaggtttga tgttgctttt    3099
Lys Asn Leu Met Lys Ala Phe Ser Gln Lys Arg
        85                  90


tcaggaaatg gtggtctggg gagcagcgcc tgccctgggc tttgctgtgg gcatctgccc    3159
taaactcatg gcaccggcat gtgcctttgt ctctccattt acacagacac tgaggtgcct    3219
tcttaggtca tacattccta gtgtctagaa gtggagcagt tattatacct gtcacgggta    3279
aagctgccaa atgcccaccc ccccacttcc tcacttaaaa aaaaaaaacc aaaaacaaac    3339
aaacccattc tgtcccctca accccacccc acccgtgacc catggagatt gtgtagcaga    3399
ggaaaatgca ccaggccttt tgccccaggg tctttgggtt ccaaagtgaa agcagagtct    3459
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11

```
atccgctcaa tacagtttcc tcttcctaca g g tct aaa agg gct cct                    3506
                                      Ser Lys Arg Ala Pro
                                       95

taactggaga gaagccacgc acacacccg gtgctgtgat ggacagcaga gagcctgtct          3566
ctccatcact cccctttacc cagtggatgg ctagtcctaa ttgcccttgg tcttctgaaa          3626
ggtgaccagc cgtggtcaca tcagctgcta ctcctcctgc aggatgatgg ttaagccatg          3686
gtcctgagac aaaagtaact gccgaagcaa gaattcttta agggctggtc tgagtcctca          3746
ctcaagtggc tgggatggct gtcctagctc tgtactgtaa gctatgtgga ggtgcgacgc          3806
ccttcaccat gtgccacgcc ccaggctgct ccccacaccc tccttgtcct ccctagctca          3866
ggctcgtcag ttctgagttt acctgagctc ttttatttca gatgtaagac tacaaattta          3926
agtttgtaag gacaaactta accaccatct tcccaggggg ttatcaagat actcagagga          3986
acctggaaat gtatgtgtaa atactattta atgaacgact gtacaaagta gaattcctag          4046
atgtattttt tgtatgcttt gcattgtata tggaagaact tgtgtcatca agtatgtatc          4106
aatgggtagt taaagtttat ttttaaaacc gtccaatacc ttttgtatta tgtaacattc          4166
aaaagacaat gtactgtatt gaaagtagta agagacccaa aatgtaataa agtaataata          4226
actgacatga aatggtcatg tgactgagaa ttc                                       4259

<210> 31
<211> 1081
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (43)...(363)

<400> 31
ctctcctcct cgcacagccg ctcgaaccgc ctgctgagcc cc atg gcc cgc gcc            54
                                            Met Ala Arg Ala
                                             1

acg ctc tcc gcc gcc ccc agc aat ccc cgg ctc ctg cgg gtg gcg ctg           102
Thr Leu Ser Ala Ala Pro Ser Asn Pro Arg Leu Leu Arg Val Ala Leu
 5                   10                  15                  20

ctg ctc ctg ctc ctg gtg gcc gcc agc cgg cgc gca gca gga gcg ccc           150
Leu Leu Leu Leu Leu Val Ala Ala Ser Arg Arg Ala Ala Gly Ala Pro
                 25                  30                  35

ctg gcc act gaa ctg cgc tgc cag tgc ttg cag acc ctg cag gga att           198
Leu Ala Thr Glu Leu Arg Cys Gln Cys Leu Gln Thr Leu Gln Gly Ile
             40                  45                  50

cac ctc aag aac atc caa agt gtg aag gtg aag tcc ccc gga ccc cac           246
His Leu Lys Asn Ile Gln Ser Val Lys Val Lys Ser Pro Gly Pro His
         55                  60                  65

tgc gcc caa acc gaa gtc ata gcc aca ctc aag aat ggg cag aaa gct           294
Cys Ala Gln Thr Glu Val Ile Ala Thr Leu Lys Asn Gly Gln Lys Ala
     70                  75                  80

tgt ctc aac ccc gca tcg ccc atg gtt aag aaa atc atc gaa aag atg           342
Cys Leu Asn Pro Ala Ser Pro Met Val Lys Lys Ile Ile Glu Lys Met
 85                  90                  95                 100

ctg aaa aat ggc aaa tcc aac tgaccagaag gaaggaggaa gcttattggt              393
Leu Lys Asn Gly Lys Ser Asn
                 105

ggctgttcct gaaggaggcc ctgcccttac aggaacagaa gaggaaagag agacacagct         453
gcagaggcca cctggattgc gcctaatgtg tttgagcatc acttaggaga agtcttctat         513
```

12

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ttatttattt atttatttat ttgtttgttt tagaagattc tatgttaata tttatgtgt    573
aaaataaggt tatgattgaa tctacttgca cactctccca ttatatttat tgtttatttt    633
aggtcaaacc caagttagtt caatcctgat tcatatttaa tttgaagata gaaggtttgc    693
agatattctc tagtcatttg ttaatatttc ttcgtgatga catatcacat gtcagccact    753
gtgatagagg ctgaggaatc caagaaaatg gccagtgaga tcaatgtgac ggcagggaaa    813
tgtatgtgtg tctattttgt aactgtaaag atgaatgtca gttgttattt attgaaatga    873
tttcacagtg tgtggtcaac atttctcatg ttgaagcttt aagaactaaa atgttctaaa    933
tatcccttgg acattttatg tctttcttgt aaggcatact gccttgttta atgttaatta    993
tgcagtgttt ccctctgtgt tagagcagag aggtttcgat atttattgat gttttcacaa   1053
agaacaggaa aataaaatat ttaaaaat                                       1081


<210> 32
<211> 1173
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (107)...(448)

<400> 32
cggcacgagc acagtgctcc ggatcctcca atcttcgctc ctccaatctc cgctcctcca     60
cccagttcag gaacccgcga ccgctcgcag cgctctcttg accact atg agc ctc       115
                                                    Met Ser Leu
                                                    1


ctg tcc agc cgc gcg gcc cgt gtc ccc ggt cct tcg agc tcc ttg tgc     163
Leu Ser Ser Arg Ala Ala Arg Val Pro Gly Pro Ser Ser Ser Leu Cys
    5                   10                  15


gcg ctg ttg gtg ctg ctg ctg ctg ctg acg cag cca ggg ccc atc gcc     211
Ala Leu Leu Val Leu Leu Leu Leu Leu Thr Gln Pro Gly Pro Ile Ala
 20                  25                  30                  35


agc gct ggt cct gcc gct gct gtg ttg aga gag ctg cgt tgc gtt tgt     259
Ser Ala Gly Pro Ala Ala Ala Val Leu Arg Glu Leu Arg Cys Val Cys
                40                  45                  50


tta cag acc acg cag gga gtt cat ccc aaa atg atc agt aat ctg caa     307
Leu Gln Thr Thr Gln Gly Val His Pro Lys Met Ile Ser Asn Leu Gln
                55                  60                  65


gtg ttc gcc ata ggc cca cag tgc tcc aag gtg gaa gtg gta gcc tcc     355
Val Phe Ala Ile Gly Pro Gln Cys Ser Lys Val Glu Val Val Ala Ser
            70                  75                  80


ctg aag aac ggg aag gaa att tgt ctt gat cca gaa gcc cct ttt cta     403
Leu Lys Asn Gly Lys Glu Ile Cys Leu Asp Pro Glu Ala Pro Phe Leu
        85                  90                  95


aag aaa gtc atc cag aaa att ttg gac ggt gga aac aag gaa aac          448
Lys Lys Val Ile Gln Lys Ile Leu Asp Gly Gly Asn Lys Glu Asn
100                 105                 110


tgattaagag aaatgagcac gcatggaaaa gtttcccagt ctacagcaga gaagttttct    508
ggaggtctct gaacccaggg aagacaagaa ggaaagattt tgttgttgtt tgtttatttg    568
gtttccccag tagttagctt tcttccctgg attcctcact tttgaagagt gtgaggaaaa    628
cctatgtttg gcgcttaagc tttcagctca gcttaatgaa gtgtttagca tagtacctct    688
gctatttgct gttatttat ctgctatgct attgaagttt tggcaattga ctatagtgtg    748
agccaggaat cactggctgt taatcttaca aagtgtcttg gaattgtagg tgactattat    808
ttttccaaga aatatccctt aagatattaa ctgagaaggc tggggggttta atgtggaaat    868
gatgtttcaa aaggaatcct gtgatggaaa tacaactggt atcttcactt ttttaggaat    928
```

13

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tgggaaatat tttaatgttt cttggggaat atgttagaga attcccttac tcttgattgt    988
gggatactat ttaattattt cactttagaa agctgagtgt ttcacacctt atctatgtag   1048
aatatatttc cttattcaga atttctaaaa gtttaagttc tatgagggct aatatcttat   1108
cttcctataa ttttagacat tgctttaact ttttagtaaa aaaaaaaaaa aaaaaaaaaa   1168
aaaaa                                                                1173
```

<210> 33
<211> 825
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (34)...(327)

<400> 33
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acattgtgaa atctccaact cttaaccttc aac atg aaa gtc tct gca gtg ctt     54
                                     Met Lys Val Ser Ala Val Leu
                                      1               5

ctg tgc ctg ctg ctc atg aca gca gct ttc aac ccc cag gga ctt gct    102
Leu Cys Leu Leu Leu Met Thr Ala Ala Phe Asn Pro Gln Gly Leu Ala
         10                  15                  20

cag cca gat gca ctc aac gtc cca tct act tgc tgc ttc aca ttt agc    150
Gln Pro Asp Ala Leu Asn Val Pro Ser Thr Cys Cys Phe Thr Phe Ser
     25                  30                  35

agt aag aag atc tcc ttg cag agg ctg aag agc tat gtg atc acc acc    198
Ser Lys Lys Ile Ser Leu Gln Arg Leu Lys Ser Tyr Val Ile Thr Thr
 40                  45                  50                  55

agc agg tgt ccc cag aag gct gtc atc ttc aga acc aaa ctg ggc aag    246
Ser Arg Cys Pro Gln Lys Ala Val Ile Phe Arg Thr Lys Leu Gly Lys
             60                  65                  70

gag atc tgt gct gac cca aag gag aag tgg gtc cag aat tat atg aaa    294
Glu Ile Cys Ala Asp Pro Lys Glu Lys Trp Val Gln Asn Tyr Met Lys
         75                  80                  85

cac ctg ggc cgg aaa gct cac acc ctg aag act tgaactctgc tacccctact   347
His Leu Gly Arg Lys Ala His Thr Leu Lys Thr
         90                  95

gaaatcaagc tggagtacgt gaaatgactt ttccattctc ctctggcctc ctcttctatg   407
ctttggaata cttctaccat aattttcaaa taggatgcat tcggttttgt gattcaaaat   467
gtactatgtg ttaagtaata ttggctatta tttgacttgt tgctggtttg gagtttattt   527
gagtattgct gatctttttct aaagcaaggc cttgagcaag taggttgctg tctctaagcc   587
cccttccctt ccactatgag ctgctggcag tgggttgtat tcggttccca ggggttgaga   647
gcatgcctgt gggagtcatg gacatgaagg gatgctgcaa tgtaggaagg agagctcttt   707
gtgaatgtga ggttgttgct aaattattgt ttattgtgga aagatgaatg caatagtagg   767
actgctgaca ttttgcagaa aatacatttt atttaaaatc tcctaaaaaa aaaaaaaa     825
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<210> 34
<211> 3112
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1192)...(1267)

14

<220>
<221> CDS
<222> (1953)...(2067)

<220>
<221> CDS
<222> (2488)...(2575)

<400> 34
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ttagagactt aataataaag gatcttgtgg ataatttatc attccctgat agagaaaaat    60
ttagctttgc ttattttaga gttataaatg atgctgggtc aggtatcttt atgtttgaag   120
atggctccat atttgggttg tttccacaga actctttccc agaaatgctt tttctaggtt   180
aatggctaca catatttcta ggcacctgac atactgacac ccacctctaa agtattttta   240
tgatccacaa ctagcgttta acacagcgcc ccagtcactc cgagactaat aaatagacaa   300
atgactgaaa cgtgacctca tgctttctat tcctccagct ttcattgagt tccttttcctc  360
tgggaggact gggggttgtc tagccctcca cagcatcagc ccattgaccc tatccttgtg   420
gttatagcag ctgaggaagc agaattacag ctctgtggga aggaatgggg ctggagagtt   480
catgcataga ccaattcttt tttttttttt ttttgagat ggagtttcac ttttgttgcc    540
caggctggag tgcaatggca tgatctcagc tcaccacagc ccccacctcc tgggttcaag   600
cgattctcct gccctcagcc tcccgagtag ctgggattac aggcatgtgc caccacgcct   660
gactactttt gtattttag tagagatgga gtttctcttt cttggtcagg ttggtctcaa     720
actcctgacc tcaggtgatc cgcagcctcg gcctcccaaa gtgttgggat tacaggtgtg   780
agcgaccatg cctggctgca tagaccagtt cttatgagaa gggatcaact aagaatagcc   840
ttgggttgac acacacccct cttcacactc acaggagaaa ccccatgaag ctagaaccag   900
tcatgagttg agagctgaga gttagagagt agctcagaga tgctattctt ggatatcctg   960
agcccctgtg gtcaccaggg accctgagtt gtgcaacact cagcatgaca gcatcactac  1020
acttaaaaat ttccctcctc accccccagat tccatttccc catccgccag ggctgcctat  1080
aaagaggaga gatggcttca gacatcagaa ggacgcaggc agcaaagagt agtcagtccc  1140
ttcttggctc tgctgacact cgagcccaca ttccatcacc tgctcccaat c atg cag   1197
                                                          Met Gln
                                                            1

gtc tcc act gct gcc ctt gcc gtc ctc ctc tgc acc atg gct ctc tgc   1245
Val Ser Thr Ala Ala Leu Ala Val Leu Leu Cys Thr Met Ala Leu Cys
         5                   10                  15

aac cag gtc ctc tct gca cca c gtgagtccat gttgttgttg tgggtatcac   1297
Asn Gln Val Leu Ser Ala Pro
        20                  25

cactctctgg ccatggttag accacatcag tcttttttttg cggcctgaga gccccgaaga  1357
gaaaagaagg aagttcttaa agcgctgcca aacaccttgg tcttttttctt cacaactttt  1417
attttttatct ctagaagggg tcttagccct cctagtctcc aggtatgaga atctaggcag  1477
gggcagggga gttacagtcc cttgtacaga tagaaaaaca gggttcaaaa cgaatcagtt  1537
tgcaagaggc agaatccagg ctgcttact tcccagtggg gtctgttgtt cactctccag   1597
ctcaccctag gtctcccagg agccctgtcc cttggatgtc ttatgagaga tgtccagggc  1657
ttctcttggg ctggggtatg acttcttgaa ccgacaaaat tccatgaaga gagctaagag  1717
aacagtccat tcaggtatct ggatcacata gagaaacaga gaacccacta tgaagagtca  1777
aggggaaaga ggaatataga cagaaacaaa gagacatttc tctgcaaaac cccccaaatg  1837
ccttgcagtc acttggtctg agcaagcctg ccctcctcaa ccactcaggg atcagaagct  1897
gcctggcctt ttcttctgag ctgtgactcg ggcttattct ctcctttctc cgcag tt    1954
                                                              Leu

gct gct gac acg ccg acc gcc tgc tgc ttc agc tac acc tcc cga cag   2002
Ala Ala Asp Thr Pro Thr Ala Cys Cys Phe Ser Tyr Thr Ser Arg Gln
        30                  35                  40

att cca cag aat ttc ata gct gac tac ttt gag acg agc agc cag tgc   2050
Ile Pro Gln Asn Phe Ile Ala Asp Tyr Phe Glu Thr Ser Ser Gln Cys
        45                  50                  55
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15

```
tcc aag ccc agt gtc at gtaagtgcca gtcttcctgc tcacctctag          2097
Ser Lys Pro Ser Val Ile
        60

ggaggtaggg agtgtcaggg tgggggcaga aacaggccag aaggccatcc tggaaaggcc   2157
cagccttcag gagcctatcg gggatacagg acgcagggca ctgaggtgtg acctgacttg   2217
gggctggagt gaggtgggtg ttacagagtc aggaagggct gccccaggcc agaggaaagg   2277
aacaggaaga aggaggcagc aggacactct gagggccccc ttgcctggag tcactgagag   2337
aagctctcta gacggagata ggcaggggc ccctgagaga ggagcaggcc ttgagctgcc   2397
caggacagag agcaggatgt caggccatgg tgggcccagg attccccggc tggattcccc   2457
agtgcttaac tcttcctccc ttctccacag c ttc cta acc aag aga ggc cgg    2509
                                   Phe Leu Thr Lys Arg Gly Arg
                                   65                      70

cag gtc tgt gct gac ccc agt gag gag tgg gtc cag aaa tac gtc agt   2557
Gln Val Cys Ala Asp Pro Ser Glu Glu Trp Val Gln Lys Tyr Val Ser
            75                  80                  85

gac ctg gag ctg agt gcc tgaggggtcc agaagcttcg aggcccagcg          2605
Asp Leu Glu Leu Ser Ala
            90

acctcagtgg gcccagtggg gaggagcagg agcctgagcc ttgggaacat gcgtgtgacc   2665
tctacagcta cctcttctat ggactggtta ttgccaaaca gccacactgt gggactcttc   2725
ttaacttaaa ttttaattta tttatactat ttagttttta taatttattt ttgatttcac   2785
agtgtgtttg tgattgtttg ctctgagagt tccccctgtc ccctccacct tccctcacag   2845
tgtgtctggt gacgaccgag tggctgtcat cggcctgtgt aggcagtcat ggcaccaaag   2905
ccaccagact gacaaatgtg tatcagatgc ttttgttcag ggctgtgatc ggcctgggga   2965
aataataaag atgttctttt aaacggtaaa ccagtattga gtttggtttt gtttttctgg   3025
caaatcaaaa tcactagtta agaggaatca taggcaaaga ttaggaagag gtgaaatgga   3085
gggaaactgg gagagatggg gagcgct                                      3112

<210> 35
<211> 481
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (55)...(333)

<400> 35
agcctctgaa gctcccacca ggccagctct cctcccacaa cagcttccca cagc atg    57
                                                              Met
                                                              1

aag atc tcc gtg gct gcc att ccc ttc ttc ctc ctc atc acc atc gcc   105
Lys Ile Ser Val Ala Ala Ile Pro Phe Phe Leu Leu Ile Thr Ile Ala
            5                   10                  15

cta ggg acc aag act gaa tcc tcc tca cgg gga cct tac cac ccc tca   153
Leu Gly Thr Lys Thr Glu Ser Ser Ser Arg Gly Pro Tyr His Pro Ser
        20                  25                  30

gag tgc tgc ttc acc tac act acc tac aag atc ccg cgt cag cgg att   201
Glu Cys Cys Phe Thr Tyr Thr Thr Tyr Lys Ile Pro Arg Gln Arg Ile
    35                  40                  45

atg gat tac tat gag acc aac agc cag tgc tcc aag ccc gga att gtc   249
Met Asp Tyr Tyr Glu Thr Asn Ser Gln Cys Ser Lys Pro Gly Ile Val
50                  55                  60                  65
```

16

```
ttc atc acc aaa agg ggc cat tcc gtc tgt acc aac ccc agt gac aag        297
Phe Ile Thr Lys Arg Gly His Ser Val Cys Thr Asn Pro Ser Asp Lys
              70              75                  80

tgg gtc cag gac tat atc aag gac atg aag gag aac tgagtgaccc .          343
Trp Val Gln Asp Tyr Ile Lys Asp Met Lys Glu Asn
            85              90
```

```
agaaggggtg gcgaaggcac agctcagaga cataaagaga agatgccaag gccccctcct      403
ccacccaccc ctaactctca gccccagtca ccctcttgga gcttccctgc tttgaattaa      463
agaccactca tgctcttc                                                   481
```

<210> 36
<211> 3709
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (885)...(960)

<220>
<221> CDS
<222> (2149)...(2260)

<220>
<221> CDS
<222> (3383)...(3482)

<400> 36
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tctagaaaaa aaaaaacaaa aagggaaaat tcccctggca ggactctcag atgctgctga       60
gtagctctca gtcctctctg taacccaaac ataacacatc tatctccgtg cttacactgg      120
gtggctttca cttgtttatc tgtgaattga agagaagttg cttgaggtca ggcagtgctc      180
ctcattggta actgccttct ctggggctaa ccaaggacct agaacagaat aagctattga      240
aaattgttga ggattgaaaa aaatagaaaa aatagaaatg gcaaatatct aggccagtca      300
ctggacatag agaatgttat ttaattctta tcgcacgtcc ttgagacatg tattgctatt      360
tgcattttgt gtgaatatgc atttgggtaa gtttatgtaa tccctcctct gcagaactgg      420
gattcaaatg caggtgtatc tctgttcagg tccagactct tctgccctga agcagtagta      480
cttggatgga atgacgtagg gttggacaag ccacacagag gccacttcct ctcacttact      540
tttctttgct tcccactcaa ccaggacagt tcccacgcac tttttcaaga ttcttatctg      600
ctcccacact tggggaagtt cccaatgcaa cctatcaatc catcaccacc acgaatacca      660
gccaggagag gtggggaaag gagtttacca catggtcgct gggtgtgagc aactgttccc      720
tgtccctatg gcttcccact tgtggctccc accatggcct ggagttttgg gtggagtttt      780
tcaaataaaa gccctcagca ttgcaggacg gcacagtggt gagctcttag cttcaccagg      840
ctcatcaaag ctgctccagg aaggcccaag ccagaccaga agac atg cag atc atc       896
                                                    Met Gln Ile Ile
                                                      1
```

```
acc aca gcc ctg gtg tgc ttg ctg cta gct ggg atg tgg ccg gaa gat        944
Thr Thr Ala Leu Val Cys Leu Leu Leu Ala Gly Met Trp Pro Glu Asp
  5               10              15                  20
```

```
gtg gac agc aag agc a gtgagtgtgg caggcatcat tttgcttctc tctggggagg     1000
Val Asp Ser Lys Ser
                25
```

```
gcagaaacgt ggtcagccac tctggggttg gagcaggctt ctccttgaac tcaccaactc     1060
tatctcccct cttcctacct aaagaggagg aatggtgaac ttggacaggc tggggtgagg     1120
gctagtagga gaaccatgag ttggggcaaa cacagagaac tgaactgaca gcttcagtac     1180
aaggagctct gcttcatcca gacccaagga agggaacctg tgaggttact cgggtaaagc     1240
tgggaggccc aaggtccagg ggacagcctg ggtgtagctt ctacagtgtg acagacacca     1300
agtagagtca gaaggcaaga ccgggctcta acaattggtc actcttgggc aagtcacttt     1360
```

17

```
agctctcaaa ctctactttc tctatcagtg aaatggagtt gatgatgtct gccctccaag    1420
actgtttgga gaataccaac ctagtaagag gcatgaaagg gggtgcaaac agaaaaacta    1480
ggaggaagaa gctgggattg gaatgcaggt ctcttgcggg atgtggtgtg ggaggagaat    1540
gcacaaatgg acagagtggg ggttgggggc tgggaaagag ctaaggacca gggcaggagg    1600
ggattcaaga gactgagtag ggcagctagc tagttcctgg gagctcttcc cttgtcatct    1660
catcagtttg gactcctcga acaattccta atcttcccca gatcaggtct gtgaactgtg    1720
gaccactgtg tcctgcatca gactaaccag gtccccaggg tgtggggtcc agagcccttg    1780
gacatgaata ctggggcaga accatgcaca tgtggtgaaa taccaaaact ggatgagcct    1840
ttagaaacca ggctccaaaa agtttttattt tacagatggg aagtctgggg ccagggtgaa    1900
ggcacatctt cctcagggcc actcagctgg ggtgcgggga gctcagatct gaaccccaat    1960
cttctgactc tttacctagc cccagaacaa ggtggctgat gaggcagagc tatgccggca    2020
ccgtctggat gtggtcccca agccagggct tgtcctggga ggcgtttttt tgtttgtttt    2080
ttaaaaattg tgctacaggt gagaggttga gaaatggatg caaaccatcg tctgtgttcc    2140
tcttctag tg cag gta ccc ttc tcc aga tgt tgc ttc tca ttt gcg gag     2189
            Met Gln Val Pro Phe Ser Arg Cys Cys Phe Ser Phe Ala Glu
                          30                    35

caa gag att ccc ctg agg gca atc ctg tgt tac aga aat acc agc tcc     2237
Gln Glu Ile Pro Leu Arg Ala Ile Leu Cys Tyr Arg Asn Thr Ser Ser
 40                    45                    50                    55

atc tgc tcc aat gag ggc tta at gtaagtgatc acctgctcaa tctctcccta      2290
Ile Cys Ser Asn Glu Gly Leu Ile
                  60

gagaacagaa ccccgccagc ctggaattac aagagtagac actagatgac agtattttac    2350
tggaataagg tttctaaacc cagagctgcc agcacctggg tgcaagccac acttgggcgc    2410
tagagggagc gctgagcttc ctagcaggtg tgaggaagga tgcatctgtg ctcctgcagt    2470
ggcttgtgtt tcctgaaact ccaaggtgcc aagtattgta tcccagcatt atgagctcag    2530
aggtttaaca aaagcatgag gggttattgt gcactggaaa gagcaaggga accaggatga    2590
gttcctgccc ctggatttgg aacccatagt cttgggtgac cgtggacagg taactccttt    2650
gtactgaatt gtctgtgtat ccttctgtat tccttatctg tgaagggtca taaacatagc    2710
tgcatcacag ggtctttaca aacttaattg gagtagcttt cacataccag tcagtatttt    2770
aaggcttttt catgtatatt ctctctgtcg atcctcttgg ggcacatatt tttgttatca    2830
tgaaaagtga ggttcaggaa ggtagagata tttgtctaag atcaaccaga tagtaagaga    2890
tagagttggt ctatagattg gacaatagtc cagtttagga agtagacaga tcagaagaga    2950
aaaatacaca cccacacaca cacacaaggc gcgcgcacac acacacacac aaacacatga    3010
gtccaacgca acaagtaagg ccccagatgg acacagaaac attaaagttg gtgcaaagag    3070
ctattccagg atgggaattt ctcatctcac ctaatcgtca gaatgttttc agctgttcag    3130
ccccacccctg atacaccaaa ttgaaaccag gagaggggtc caggaaattc aattcataag    3190
ctcctggtgc tttggctgtt ccccagcgtg caaaccacac atcctgtgca gcaacttcat    3250
ttacagaggg gagcccaagg cctagcaaga gcagtttagg ggacctggca gccggaggag    3310
gcggggcttg tgcgttgccc acccagtggt ggcttgggtg gctcagcctt ctctcttatt    3370
ctctgttcac ag a ttc aag ctg aag aga ggc aaa gag gcc tgc gcc ttg      3419
                Phe Lys Leu Lys Arg Gly Lys Glu Ala Cys Ala Leu
                65                    70                    75

gac aca gtt gga tgg gtt cag agg cac aga aaa atg ctg agg cac tgc     3467
Asp Thr Val Gly Trp Val Gln Arg His Arg Lys Met Leu Arg His Cys
              80                    85                    90

ccg tca aaa aga aaa tgagcagatt tctttccatt gtgggctctg gaaaccacat     3522
Pro Ser Lys Arg Lys
          95.

ggcttcacct gtccccgaaa ctaccagccc tacaccattc cttctgccct gcttttgcta    3582
ggtcacagag gatctgcttg gtcttgataa gctatgttgt tgcactttaa acatttaaat    3642
tatacaatca tcaacccccca accctctggg ctcttggatt tcagagtgaa aacttgatgg    3702
cattgag                                                              3709
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<210> 37
<211> 673
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (67)...(450)

<400> 37
gggcaactca ccctcactca gaggtcttct ggttctggaa acaactctag ctcagccttc   60
tccacc atg agc ctc aga ctt gat acc acc cct tcc tgt aac agt gcg   108
       Met Ser Leu Arg Leu Asp Thr Thr Pro Ser Cys Asn Ser Ala
        1   5   10

aga cca ctt cat gcc ttg cag gtg ctg ctg ctt ctg tca ttg ctg ctg   156
Arg Pro Leu His Ala Leu Gln Val Leu Leu Leu Leu Ser Leu Leu Leu
 15   20   25   30

act gct ctg gct tcc tcc acc aaa gga caa act aag aga aac ttg gcg   204
Thr Ala Leu Ala Ser Ser Thr Lys Gly Gln Thr Lys Arg Asn Leu Ala
                    35   40   45

aaa ggc aaa gag gaa agt cta gac agt gac ttg tat gct gaa ctc cgc   252
Lys Gly Lys Glu Glu Ser Leu Asp Ser Asp Leu Tyr Ala Glu Leu Arg
                50   55   60

tgc atg tgt ata aag aca acc tct gga att cat ccc aaa aac atc caa   300
Cys Met Cys Ile Lys Thr Thr Ser Gly Ile His Pro Lys Asn Ile Gln
            65   70   75

agt ttg gaa gtg atc ggg aaa gga acc cat tgc aac caa gtc gaa gtg   348
Ser Leu Glu Val Ile Gly Lys Gly Thr His Cys Asn Gln Val Glu Val
        80   85   90

ata gcc aca ctg aag gat ggg agg aaa atc tgc ctg gac cca gat gct   396
Ile Ala Thr Leu Lys Asp Gly Arg Lys Ile Cys Leu Asp Pro Asp Ala
 95   100   105   110

ccc aga atc aag aaa att gta cag aaa aaa ttg gca ggt gat gaa tct   444
Pro Arg Ile Lys Lys Ile Val Gln Lys Lys Leu Ala Gly Asp Glu Ser
                115   120   125

gct gat taatttgttc tgtttctgcc aaacttcttt aactcccagg aagggtagaa   500
Ala Asp

ttttgaaacc ttgattttct agagttctca tttattcagg atacctattc ttactgtatt   560
aaaatttgga tatgtgtttc attctgtctc aaaaatcaca ttttattctg agaaggttgg   620
ttaaaagatg gcagaaagaa gatgaaaata ataagcctg gtttcaaccc tct   673

<210> 38
<211> 12
<212> PRT
<213> Homo sapiens

<400> 38
Gln Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln
 1   5   10

19

<210> 39
<211> 2545
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (40)...(414)

<400> 39
atccaataca ggagtgactt ggaactccat tctatcact atg aag aaa agt ggt   54
                                                  Met Lys Lys Ser Gly
                                                  1   5

gtt ctt ttc ctc ttg ggc atc atc ttg ctg gtt ctg att gga gtg caa   102
Val Leu Phe Leu Leu Gly Ile Ile Leu Leu Val Leu Ile Gly Val Gln
                10   15   20

gga acc cca gta gtg aga aag ggt cgc tgt tcc tgc atc agc acc aac   150
Gly Thr Pro Val Val Arg Lys Gly Arg Cys Ser Cys Ile Ser Thr Asn
            25   30   35

caa ggg act atc cac cta caa tcc ttg aaa gac ctt aaa caa ttt gcc   198
Gln Gly Thr Ile His Leu Gln Ser Leu Lys Asp Leu Lys Gln Phe Ala
            40   45   50

cca agc cct tcc tgc gag aaa att gaa atc att gct aca ctg aag aat   246
Pro Ser Pro Ser Cys Glu Lys Ile Glu Ile Ile Ala Thr Leu Lys Asn
        55   60   65

gga gtt caa aca tgt cta aac cca gat tca gca gat gtg aag gaa ctg   294
Gly Val Gln Thr Cys Leu Asn Pro Asp Ser Ala Asp Val Lys Glu Leu
    70   75   80   85

att aaa aag tgg gag aaa cag gtc agc caa aag aaa aag caa aag aat   342
Ile Lys Lys Trp Glu Lys Gln Val Ser Gln Lys Lys Lys Gln Lys Asn
                90   95   100

ggg aaa aaa cat caa aaa aag aaa gtt ctg aaa gtt cga aaa tct caa   390
Gly Lys Lys His Gln Lys Lys Lys Val Leu Lys Val Arg Lys Ser Gln
            105   110   115

cgt tct cgt caa aag aag act aca taagagacca cttcaccaat aagtattctg   444
Arg Ser Arg Gln Lys Lys Thr Thr
            120   125

tgttaaaaat gttctatttt aattataccg ctatcattcc aaaggaggat ggcatataat   504
acaaaggctt attaatttga ctagaaaatt taaaacatta ctctgaaatt gtaactaaag   564
ttagaaagtt gattttaaga atccaaacgt taagaattgt taaaggctat gattgtcttt   624
gttcttctac cacccaccag ttgaatttca tcatgcttaa ggccatgatt ttagcaatac   684
ccatgtctac acagatgttc acccaaccac atcccactca caacagctgc ctggaagagc   744
agccctaggc ttccacgtac tgcagcctcc agagagtatc tgaggcacat gtcagcaagt   804
cctaagcctg ttagcatgct ggtgagccaa gcagtttgaa attgagctgg acctcaccaa   864
gctgctgtgg ccatcaacct ctgtatttga atcagcctac aggcctcaca cacaatgtgt   924
ctgagagatt catgctgatt gttattgggt atcaccactg gagatcacca gtgtgtggct   984
ttcagagcct cctttctggc tttggaagcc atgtgattcc atcttgcccg ctcaggctga   1044
ccactttatt tcttttttgtt cccctttgct tcattcaagt cagctcttct ccatcctacc   1104
acaatgcagt gcctttcttc tctccagtgc acctgtcata tgctctgatt tatctgagtc   1164
aactcctttc tcatcttgtc cccaacaccc cacagaagtg ctttcttctc ccaattcatc   1224
ctcactcagt ccagcttagt tcaagtcctg cctcttaaat aaaccttttt ggacacacaa   1284
attatcttaa aactcctgtt tcacttggtt cagtaccaca tgggtgaaca ctcaatggtt   1344

20

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aactaattct tgggtgttta tcctatctct ccaaccagat tgtcagctcc ttgagggcaa    1404
gagccacagt atatttccct gtttcttcca cagtgcctaa taatactgtg gaactaggtt    1464
ttaataattt tttaattgat gttgttatgg gcaggatggc aaccagacca ttgtctcaga    1524
gcaggtgctg gctctttcct ggctactcca tgttggctag cctctggtaa cctcttactt    1584
attatcttca ggacactcac tacagggacc agggatgatg caacatcctt gtctttttat    1644
gacaggatgt ttgctcagct tctccaacaa taagaagcac gtggtaaaac acttgcggat    1704
attctggact gttttttaaaa aatatacagt ttaccgaaaa tcatataatc ttacaatgaa    1764
aaggacttta tagatcagcc agtgaccaac cttttcccaa ccatacaaaa attccttttc    1824
ccgaaggaaa agggctttct caataagcct cagctttcta agatctaaca agatagccac    1884
cgagatcctt atcgaaactc attttaggca aatatgagtt ttattgtccg tttacttgtt    1944
tcagagtttg tattgtgatt atcaattacc acaccatctc ccatgaagaa agggaacggt    2004
gaagtactaa gcgctagagg aagcagccaa gtcggttagt ggaagcatga ttggtgccca    2064
gttagcctct gcaggatgtg gaaacctcct tccaggggag gttcagtgaa ttgtgtagga    2124
gaggttgtct gtggccagaa tttaaaccta tactcacttt cccaaattga atcactgctc    2184
acactgctga tgatttagag tgctgtccgg tggagatccc acccgaacgt cttatctaat    2244
catgaaactc cctagttcct tcatgtaact tccctgaaaa atctaagtgt ttcataaatt    2304
tgagagtctg tgacccactt accttgcatc tcacaggtag acagtatata actaacaacc    2364
aaagactaca tattgtcact gacacacacg ttataatcat ttatcatata tatacataca    2424
tgcatacact ctcaaagcaa ataatttttc acttcaaaac agtattgact tgtatacctt    2484
gtaatttgaa atatttctt tgttaaaata gaatggtatc aataaataga ccattaatca    2544
g                                                                    2545
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<210> 40
<211> 12
<212> PRT
<213> Homo sapiens

<400> 40
Glu Leu Cys Leu Asp Pro Lys Glu Asn Trp Val Gln
1   5   10

<210> 41
<211> 12
<212> PRT
<213> Homo sapiens

<400> 41
Glu Ile Cys Leu Asp Pro Glu Ala Pro Phe Leu Lys
1   5   10

<210> 42
<211> 12
<212> PRT
<213> Homo sapiens

<400> 42
Gln Val Cys Ala Asp Pro Ser Glu Glu Trp Val Gln
1   5   10

<210> 43
<211> 12
<212> PRT
<213> Homo sapiens

<400> 43
Gln Val Cys Ala Asp Pro Ser Glu Ser Trp Val Gln
1   5   10

21
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<210> 44
<211> 12
<212> PRT
<213> Homo sapiens

<400> 44
Gln Val Cys Ala Asp Pro Ser Glu Ser Trp Val Gln
1               5                   10


<210> 45
<211> 125
<212> PRT
<213> Homo sapiens

<400> 45
Met Lys Lys Ser Gly Val Leu Phe Leu Leu Gly Ile Ile Leu Leu Val
1               5                   10                  15
Leu Ile Gly Val Gln Gly Thr Pro Val Val Arg Lys Gly Arg Cys Ser
            20                  25                  30
Cys Ile Ser Thr Asn Gln Gly Thr Ile His Leu Gln Ser Leu Lys Asp
            35                  40                  45
Leu Lys Gln Phe Ala Pro Ser Pro Ser Cys Glu Lys Ile Glu Ile Ile
        50                  55                  60
Ala Thr Leu Lys Asn Gly Val Gln Thr Cys Leu Asn Pro Asp Ser Ala
65                  70                  75                  80
Asp Val Lys Glu Leu Ile Lys Lys Trp Glu Lys Gln Val Ser Gln Lys
                85                  90                  95
Lys Lys Gln Lys Asn Gly Lys Lys His Gln Lys Lys Lys Val Leu Lys
            100                 105                 110
Val Arg Lys Ser Gln Arg Ser Arg Gln Lys Lys Thr Thr
            115                 120                 125


<210> 46
<211> 128
<212> PRT
<213> Homo sapiens

<400> 46
Met Ser Leu Arg Leu Asp Thr Thr Pro Ser Cys Asn Ser Ala Arg Pro
1               5                   10                  15
Leu His Ala Leu Gln Val Leu Leu Leu Ser Leu Leu Leu Thr Ala
            20                  25                  30
Leu Ala Ser Ser Thr Lys Gly Gln Thr Lys Arg Asn Leu Ala Lys Gly
            35                  40                  45
Lys Glu Glu Ser Leu Asp Ser Asp Leu Tyr Ala Glu Leu Arg Cys Met
        50                  55                  60
Cys Ile Lys Thr Thr Ser Gly Ile His Pro Lys Asn Ile Gln Ser Leu
65                  70                  75                  80
Glu Val Ile Gly Lys Gly Thr His Cys Asn Gln Val Glu Val Ile Ala
                85                  90                  95
Thr Leu Lys Asp Gly Arg Lys Ile Cys Leu Asp Pro Asp Ala Pro Arg
            100                 105                 110
Ile Lys Lys Ile Val Gln Lys Lys Leu Ala Gly Asp Glu Ser Ala Asp
            115                 120                 125


<210> 47
<211> 96
<212> PRT
<213> Homo sapiens

22

<400> 47

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Met Gln Ile Ile Thr Thr Ala Leu Val Cys Leu Leu Leu Ala Gly Met
1               5                   10                  15
Trp Pro Glu Asp Val Asp Ser Lys Ser Met Gln Val Pro Phe Ser Arg
            20                  25                  30
Cys Cys Phe Ser Phe Ala Glu Gln Glu Ile Pro Leu Arg Ala Ile Leu
            35                  40                  45
Cys Tyr Arg Asn Thr Ser Ser Ile Cys Ser Asn Glu Gly Leu Ile Phe
        50              55                  60
Lys Leu Lys Arg Gly Lys Glu Ala Cys Ala Leu Asp Thr Val Gly Trp
65                  70                  75                  80
Val Gln Arg His Arg Lys Met Leu Arg His Cys Pro Ser Lys Arg Lys
                85                  90                  95
```

<210> 48
<211> 93
<212> PRT
<213> Homo sapiens

<400> 48

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Met Lys Ile Ser Val Ala Ala Ile Pro Phe Phe Leu Leu Ile Thr Ile
1               5                   10                  15
Ala Leu Gly Thr Lys Thr Glu Ser Ser Ser Arg Gly Pro Tyr His Pro
            20                  25                  30
Ser Glu Cys Cys Phe Thr Tyr Thr Thr Tyr Lys Ile Pro Arg Gln Arg
            35                  40                  45
Ile Met Asp Tyr Tyr Glu Thr Asn Ser Gln Cys Ser Lys Pro Gly Ile
        50              55                  60
Val Phe Ile Thr Lys Arg Gly His Ser Val Cys Thr Asn Pro Ser Asp
65                  70                  75                  80
Lys Trp Val Gln Asp Tyr Ile Lys Asp Met Lys Glu Asn
                85                  90
```

<210> 49
<211> 93
<212> PRT
<213> Homo sapiens

<400> 49

```
Met Gln Val Ser Thr Ala Ala Leu Ala Val Leu Leu Cys Thr Met Ala
1               5                   10                  15
Leu Cys Asn Gln Val Leu Ser Ala Pro Leu Ala Ala Asp Thr Pro Thr
            20                  25                  30
Ala Cys Cys Phe Ser Tyr Thr Ser Arg Gln Ile Pro Gln Asn Phe Ile
            35                  40                  45
Ala Asp Tyr Phe Glu Thr Ser Ser Gln Cys Ser Lys Pro Ser Val Ile
        50              55                  60
Phe Leu Thr Lys Arg Gly Arg Gln Val Cys Ala Asp Pro Ser Glu Glu
65                  70                  75                  80
Trp Val Gln Lys Tyr Val Ser Asp Leu Glu Leu Ser Ala
                85                  90
```

<210> 50
<211> 98
<212> PRT
<213> Homo sapiens

23

<400> 50
Met Lys Val Ser Ala Val Leu Leu Cys Leu Leu Leu Met Thr Ala Ala
1   5   10   15
Phe Asn Pro Gln Gly Leu Ala Gln Pro Asp Ala Leu Asn Val Pro Ser
            20   25   30
Thr Cys Cys Phe Thr Phe Ser Ser Lys Lys Ile Ser Leu Gln Arg Leu
            35   40   45
Lys Ser Tyr Val Ile Thr Thr Ser Arg Cys Pro Gln Lys Ala Val Ile
    50   55   60
Phe Arg Thr Lys Leu Gly Lys Glu Ile Cys Ala Asp Pro Lys Glu Lys
65   70   75   80
Trp Val Gln Asn Tyr Met Lys His Leu Gly Arg Lys Ala His Thr Leu
                85   90   95
Lys Thr

<210> 51
<211> 839
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (54)...(344)

<400> 51
caacccagaa accaccacct ctcacgccaa agctcacacc ttcagcctcc aac atg   56
                                                            Met
                                                            1

aag gtc tcc gca gca ctt ctg tgg ctg ctg ctc ata gca gct gcc ttc   104
Lys Val Ser Ala Ala Leu Leu Trp Leu Leu Leu Ile Ala Ala Ala Phe
            5   10   15

agc ccc cag ggg ctc gct ggg cca gct tct gtc cca acc acc tgc tgc   152
Ser Pro Gln Gly Leu Ala Gly Pro Ala Ser Val Pro Thr Thr Cys Cys
            20   25   30

ttt aac ctg gcc aat agg aag ata ccc ctt cag cga cta gag agc tac   200
Phe Asn Leu Ala Asn Arg Lys Ile Pro Leu Gln Arg Leu Glu Ser Tyr
        35   40   45

agg aga atc acc agt ggc aaa tgt ccc cag aaa gct gtg atc ttc aag   248
Arg Arg Ile Thr Ser Gly Lys Cys Pro Gln Lys Ala Val Ile Phe Lys
 50   55   60   65

acc aaa ctg gcc aag gat atc tgt gcc gac ccc aag aag aag tgg gtg   296
Thr Lys Leu Ala Lys Asp Ile Cys Ala Asp Pro Lys Lys Lys Trp Val
                70   75   80

cag gat tcc atg aag tat ctg gac caa aaa tct cca act cca aag cca   344
Gln Asp Ser Met Lys Tyr Leu Asp Gln Lys Ser Pro Thr Pro Lys Pro
                85   90   95

taaataatca ccatttttga aaccaaacca gagcctgagt gttgcctaat ttgttttccc   404
ttcttacaat gcattctgag gtaacctcat tatcagtcca aagggcatgg gttttattat   464
atatatatat atatattttt ttttaaaaaa aaacgtattg catttaattt attgaggctt   524
taaaacttat cctccatgaa tatcagttat ttttaaactg taaagctttg tgcagattct   584
ttaccccctg ggagccccaa ttcgatcccc tgtcacgtgt gggcaatgtt ccccctctcc   644
tctcttcctc cctggaatct tgtaaaggtc ctggcaaaga tgatcagtat gaaaatgtca   704
ttgttcttgt gaacccaaag tgtgactcat taaatggaag taatgttgtt ttaggaatac   764

24

```
ataaagtatg tgcatatttt attatagtca ctagttgtaa ttttttgtg ggaaatccac    824
actgagctga ggggg                                                     839
```

<210> 52
<211> 114
<212> PRT
<213> Homo sapiens

<400> 52

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Met Ser Leu Leu Ser Ser Arg Ala Ala Arg Val Pro Gly Pro Ser Ser
 1               5                  10                  15
Ser Leu Cys Ala Leu Leu Val Leu Leu Leu Leu Leu Thr Gln Pro Gly
            20                  25                  30
Pro Ile Ala Ser Ala Gly Pro Ala Ala Ala Val Leu Arg Glu Leu Arg
        35                  40                  45
Cys Val Cys Leu Gln Thr Thr Gln Gly Val His Pro Lys Met Ile Ser
    50                  55                  60
Asn Leu Gln Val Phe Ala Ile Gly Pro Gln Cys Ser Lys Val Glu Val
65                  70                  75                  80
Val Ala Ser Leu Lys Asn Gly Lys Glu Ile Cys Leu Asp Pro Glu Ala
                85                  90                  95
Pro Phe Leu Lys Lys Val Ile Gln Lys Ile Leu Asp Gly Gly Asn Lys
            100                 105                 110
Glu Asn
```

<210> 53
<211> 107
<212> PRT
<213> Homo sapiens

<400> 53

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Met Ala Arg Ala Thr Leu Ser Ala Ala Pro Ser Asn Pro Arg Leu Leu
 1               5                  10                  15
Arg Val Ala Leu Leu Leu Leu Leu Val Ala Ala Ser Arg Arg Ala
            20                  25                  30
Ala Gly Ala Pro Leu Ala Thr Glu Leu Arg Cys Gln Cys Leu Gln Thr
        35                  40                  45
Leu Gln Gly Ile His Leu Lys Asn Ile Gln Ser Val Lys Val Lys Ser
    50                  55                  60
Pro Gly Pro His Cys Ala Gln Thr Glu Val Ile Ala Thr Leu Lys Asn
65                  70                  75                  80
Gly Gln Lys Ala Cys Leu Asn Pro Ala Ser Pro Met Val Lys Lys Ile
                85                  90                  95
Ile Glu Lys Met Leu Lys Asn Gly Lys Ser Asn
            100                 105
```

<210> 54
<211> 98
<212> PRT
<213> Homo sapiens

<400> 54

```
Met Asn Pro Ser Ala Ala Val Ile Phe Cys Leu Ile Leu Leu Gly Leu
 1               5                  10                  15
Ser Gly Thr Gln Gly Ile Pro Leu Ala Arg Thr Val Arg Cys Asn Cys
            20                  25                  30
Ile His Ile Asp Asp Gly Pro Val Arg Met Arg Ala Ile Gly Lys Leu
        35                  40                  45
```

25

```
Glu Ile Ile Pro Ala Ser Leu Ser Cys Pro Arg Val Glu Ile Ile Ala
    50                  55                  60
Thr Met Lys Lys Asn Asp Glu Gln Arg Cys Leu Asn Pro Glu Ser Lys
65                  70                  75                  80
Thr Ile Lys Asn Leu Met Lys Ala Phe Ser Gln Lys Arg Ser Lys Arg
                85                  90                  95
Ala Pro




<210> 55
<211> 1041
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (18)...(338)

<400> 55
cccgcctgct gagcccc atg gcc cgc gct gct ctc tcc gcc gcc ccc agc          50
                   Met Ala Arg Ala Ala Leu Ser Ala Ala Pro Ser
                    1               5                  10

aat ccc cgg ctc ctg cga gtg gca ctg ctg ctc ctg ctc ctg gta gcc        98
Asn Pro Arg Leu Leu Arg Val Ala Leu Leu Leu Leu Leu Leu Val Ala
            15                  20                  25

gct ggc cgg cgc gca gca gga gcg tcc gtg gcc act gaa ctg cgc tgc        146
Ala Gly Arg Arg Ala Ala Gly Ala Ser Val Ala Thr Glu Leu Arg Cys
            30                  35                  40

cag tgc ttg cag acc ctg cag gga att cac ccc aag aac atc caa agt        194
Gln Cys Leu Gln Thr Leu Gln Gly Ile His Pro Lys Asn Ile Gln Ser
        45                  50                  55

gtg aac gtg aag tcc ccc gga ccc cac tgc gcc caa acc gaa gtc ata        242
Val Asn Val Lys Ser Pro Gly Pro His Cys Ala Gln Thr Glu Val Ile
60                  65                  70                  75

gcc aca ctc aag aat ggg cgg aaa gct tgc ctc aat cct gca tcc ccc        290
Ala Thr Leu Lys Asn Gly Arg Lys Ala Cys Leu Asn Pro Ala Ser Pro
                80                  85                  90

ata gtt aag aaa atc atc gaa aag atg ctg aac agt gac aaa tcc aac        338
Ile Val Lys Lys Ile Ile Glu Lys Met Leu Asn Ser Asp Lys Ser Asn
                95                  100                 105

tgaccagaag ggaggaggaa gctcactggt ggctgttcct gaaggaggcc ctgcccttat      398
aggaacagaa gaggaaagag agacacagct gcagaggcca cctggattgt gcctaatgtg      458
tttgagcatc gcttaggaga agtcttctat ttatttattt attcattagt tttgaagatt      518
ctatgttaat attttaggtg taaaataatt aagggtatga ttaactctac ctgcacactg      578
tcctattata ttcattcttt ttgaaatgtc aaccccaagt tagttcaatc tggattcata      638
tttaatttga aggtagaatg ttttcaaatg ttctccagtc attatgttaa tatttctgag      698
gagcctgcaa catgccagcc actgtgatag aggctggcgg atccaagcaa atggccaatg      758
agatcattgt gaaggcaggg gaatgtatgt gcacatctgt tttgtaactg tttagatgaa      818
tgtcagttgt tatttattga aatgatttca cagtgtgtgg tcaacatttc tcatgttgaa      878
actttaagaa ctaaaatgtt ctaaatatcc cttggacatt ttatgtcttt cttgtaaggc      938
atactgcctt gtttaatggt agttttacag tgtttctggc ttagaacaaa ggggcttaat      998
tattgatgtt ttcatagaga atataaaaat aaagcactta tag                       1041
```

<210> 56
<211> 93
<212> PRT
<213> Homo sapiens

<400> 56
Met Asn Ala Lys Val Val Val Val Leu Val Leu Val Leu Thr Ala Leu
 1   5   10   15
Cys Leu Ser Asp Gly Lys Pro Val Ser Leu Ser Tyr Arg Cys Pro Cys
            20   25   30

Arg Phe Phe Glu Ser His Val Ala Arg Ala Asn Val Lys His Leu Lys
        35   40   45
Ile Leu Asn Thr Pro Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys
    50   55   60
Asn Asn Asn Arg Gln Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln
65   70   75   80
Glu Tyr Leu Glu Lys Ala Leu Asn Lys Arg Phe Lys Met
                85   90

<210> 57
<211> 107
<212> PRT
<213> Homo sapiens

<400> 57
Met Ala Arg Ala Ala Leu Ser Ala Ala Pro Ser Asn Pro Arg Leu Leu
 1   5   10   15
Arg Val Ala Leu Leu Leu Leu Leu Leu Val Ala Ala Gly Arg Arg Ala
            20   25   30
Ala Gly Ala Ser Val Ala Thr Glu Leu Arg Cys Gln Cys Leu Gln Thr
            35   40   45
Leu Gln Gly Ile His Pro Lys Asn Ile Gln Ser Val Asn Val Lys Ser
    50   55   60
Pro Gly Pro His Cys Ala Gln Thr Glu Val Ile Ala Thr Leu Lys Asn
65   70   75   80
Gly Arg Lys Ala Cys Leu Asn Pro Ala Ser Pro Ile Val Lys Lys Ile
                85   90   95
Ile Glu Lys Met Leu Asn Ser Asp Lys Ser Asn
                100   105

<210> 58
<211> 1560
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (102)...(398)

<400> 58
ctccataagg cacaaacttt cagagacagc agagcacaca agcttctagg acaagagcca   60
ggaagaaacc accggaagga accatctcac tgtgtgtaaa c atg act tcc aag ctg   116
                                             Met Thr Ser Lys Leu
                                              1   5

gcc gtg gct ctc ttg gca gcc ttc ctg att tct gca gct ctg tgt gaa   164
Ala Val Ala Leu Leu Ala Ala Phe Leu Ile Ser Ala Ala Leu Cys Glu
            10   15   20

```
ggt gca gtt ttg cca agg agt gct aaa gaa ctt aga tgt cag tgc ata        212
Gly Ala Val Leu Pro Arg Ser Ala Lys Glu Leu Arg Cys Gln Cys Ile
            25                  30                  35

aag aca tac tcc aaa cct ttc cac ccc aaa ttt atc aaa gaa ctg aga        260
Lys Thr Tyr Ser Lys Pro Phe His Pro Lys Phe Ile Lys Glu Leu Arg
            40                  45                  50

gtg att gag agt gga cca cac tgc gcc aac aca gaa att att gta aag        308
Val Ile Glu Ser Gly Pro His Cys Ala Asn Thr Glu Ile Ile Val Lys
        55                  60                  65

ctt tct gat gga aga gag ctc tgt ctg gac ccc aag gaa aac tgg gtg        356
Leu Ser Asp Gly Arg Glu Leu Cys Leu Asp Pro Lys Glu Asn Trp Val
70                  75                  80                  85

cag agg gtt gtg gag aag ttt ttg aag agg gct gag aat tca              398
Gln Arg Val Val Glu Lys Phe Leu Lys Arg Ala Glu Asn Ser
                90                  95

taaaaaaatt cattctctgt ggtatccaag aatcagtgaa gatgccagtg aaacttcaag      458
caaatctact tcaacacttc atgtattgtg tgggtctgtt gtagggttgc cagatgcaat      518
acaagattcc tggttaaatt tgaatttcag taaacaatga atagttttc attgtaccat       578
gaaatatcca gaacatactt atatgtaaag tattatttat ttgaatctac aaaaaacaac      638
aaataatttt taaatataag gattttccta gatattgcac gggagaatat acaaatagca      698
aaattgggcc aagggccaag agaatatccg aactttaatt tcaggaattg aatgggtttg      758
ctagaatgtg atatttgaag catcacataa aaatgatggg acaataaatt ttgccataaa      818
gtcaaattta gctggaaatc ctggattttt ttctgttaaa tctggcaacc ctagtctgct      878
agccaggatc cacaagtcct tgttccactg tgccttggtt tctcctttat ttctaagtgg      938
aaaaagtatt agccaccatc ttacctcaca gtgatgttgt gaggacatgt ggaagcactt      998
taagtttttt catcataaca taaattattt tcaagtgtaa cttattaacc tatttattat     1058
ttatgtattt atttaagcat caaatatttg tgcaagaatt tggaaaaata gaagatgaat     1118
cattgattga atagttataa agatgttata gtaaatttat tttattttag atattaaatg     1178
atgttttatt agataaattt caatcagggt ttttagatta aacaaacaaa caattgggta     1238
cccagttaaa tttcatttc agatatacaa caaataattt tttagtataa gtacattatt      1298
gtttatctga aattttaatt gaactaacaa tcctagtttg atactcccag tcttgtcatt     1358
gccagctgtg ttggtagtgc tgtgttgaat tacggaataa tgagttagaa ctattaaaac     1418
agccaaaact ccacagtcaa tattagtaat ttcttgctgg ttgaaacttg tttattatgt     1478
acaaatagat tcttataata ttatttaaat gactgcattt ttaaatacaa ggctttatat     1538
ttttaacttt aaaaaaaacc gg                                              1560
```

<210> 59
<211> 15
<212> PRT
<213> Homo sapiens

<400> 59
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Asn Leu Gln Val Phe Ala Ile Gly Pro Gln Cys Ser Lys Val Glu
1               5               10                  15
```

<210> 60
<211> 14
<212> PRT
<213> Homo sapiens

<400> 60
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Val Asp Tyr Tyr Glu Thr Ser Ser Leu Cys Ser Gln Pro Ala
1               5               10
```

28

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<210> 61
<211> 15
<212> PRT
<213> Homo sapiens

<400> 61
Val Asp Tyr Tyr Glu Thr Ser Ser Leu Cys Ser Gln Pro Ala Val
1               5                   10                  15




<210> 62
<211> 15
<212> PRT
<213> Homo sapiens

<400> 62
Glu Ser Tyr Arg Arg Ile Thr Asn Ile Gln Cys Pro Lys Glu Ala
1               5                   10                  15


<210> 63
<211> 15
<212> PRT
<213> Homo sapiens

<400> 63
Glu Ser Tyr Arg Arg Thr Thr Ser Ser His Cys Pro Arg Glu Ala
1               5                   10                  15


<210> 64
<211> 15
<212> PRT
<213> Homo sapiens

<400> 64
Lys Ser Tyr Val Ile Thr Thr Ser Arg Cys Pro Gln Lys Ala Val
1               5                   10                  15


<210> 65
<211> 12
<212> PRT
<213> Homo sapiens

<400> 65
Glu Ile Cys Ala Asp Pro Lys Glu Lys Trp Val Gln
1               5                   10


<210> 66
<211> 12
<212> PRT
<213> Homo sapiens

<400> 66
Glu Ile Cys Ala Asp Pro Thr Gln Lys Trp Val Gln
1               5                   10
```

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<210> 67
<211> 12
<212> PRT
<213> Homo sapiens

<400> 67
Glu Ile Cys Ala Asp Pro Lys Glu Arg Trp Val Arg
1               5                   10


<210> 68
<211> 12
<212> PRT
<213> Homo sapiens

<400> 68
Asp Ile Cys Ala Asp Pro Lys Lys Lys Trp Val Gln
1               5                   10


<210> 69
<211> 15
<212> PRT
<213> Homo sapiens

<400> 69
Ser Val Asn Val Lys Ser Pro Gly Pro His Cys Ala Gln Thr Glu
1               5                   10                  15


<210> 70
<211> 15
<212> PRT
<213> Homo sapiens

<400> 70
Ser Val Lys Val Lys Ser Pro Gly Pro His Cys Ala Gln Thr Glu
1               5                   10                  15


<210> 71
<211> 15
<212> PRT
<213> Homo sapiens

<400> 71
Ser Val Asn Val Arg Ser Pro Gly Pro His Cys Ala Gln Thr Glu
1               5                   10                  15


<210> 72
<211> 12
<212> PRT
<213> Homo sapiens

<400> 72
Lys Ala Cys Leu Asn Pro Ala Ser Pro Ile Val Lys
1               5                   10
```

<210> 73
<211> 12
<212> PRT
<213> Homo sapiens

<400> 73
Lys Ala Cys Leu Asn Pro Ala Ser Pro Met Val Lys
1   5   10

<210> 74
<211> 12
<212> PRT
<213> Homo sapiens

<400> 74
Lys Ala Cys Leu Asn Pro Ala Ser Pro Met Val Gln
1   5   10

<210> 75
<211> 12
<212> PRT
<213> Homo sapiens

<400> 75
Lys Ser Tyr Lys Ile Ile Thr Ser Ser Lys Cys Pro
1   5   10

<210> 76
<211> 661
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (32)...(331)

<400> 76
tcaaactgaa gctcgcactc tcgcctccag c atg aaa gtc tct gcc gcc ctt   52
                                    Met Lys Val Ser Ala Ala Leu
                                    1   5

ctg tgc ctg ctg ctc ata gca gcc acc ttc att ccc caa ggg ctc gct   ·100
Leu Cys Leu Leu Leu Ile Ala Ala Thr Phe Ile Pro Gln Gly Leu Ala
        10   15   20

cag cca gat gca atc aat gcc cca gtc acc tgc tgc tat aac ttc acc   148
Gln Pro Asp Ala Ile Asn Ala Pro Val Thr Cys Cys Tyr Asn Phe Thr
        25   30   35

aat agg aag atc tca gtg cag agg ctc gcg agc tat aga aga atc acc   196
Asn Arg Lys Ile Ser Val Gln Arg Leu Ala Ser Tyr Arg Arg Ile Thr
40   45   50   55

agc agc aag tgt ccc aaa gaa gct gtg atc ttc aag acc att gtg gcc   244
Ser Ser Lys Cys Pro Lys Glu Ala Val Ile Phe Lys Thr Ile Val Ala
                60   65   70

31

```
aag gag atc tgt gct gac ccc aag cag aag tgg gtt cag gat tcc atg        292
Lys Glu Ile Cys Ala Asp Pro Lys Gln Lys Trp Val Gln Asp Ser Met
            75                  80                  85

gac cac ctg gac aag caa acc caa act ccg aag act tga acactcactc        341
Asp His Leu Asp Lys Gln Thr Gln Thr Pro Lys Thr  *
            90                  95

cacaacccaa gaatctgcag ctaacttatt ttcccctagc tttccccaga catcctgttt     401
tattttatta taatgaattt tgtttgttga tgtgaaacat tatgccttaa gtaatgttaa     461
ttcttattta agttattgat gttttaagtt tatctttcat ggtactagtg ttttttagat     521
acagagactt ggggaaattg ctttttcctct tgaaccacag ttctacccct gggatgtttt    581
gagggtcttt gcaagaatca ttttttttaac attccaatgc atttaataca aagaattgct    641
aaaatattat tgtggaaatg                                                  661

<210> 77
<211> 1847
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (80)...(346)

<400> 77
tctccgtcag ccgcattgcc cgctcggcgt ccggcccccg acccgtgctc gtccgcccgc      60
ccgcccgccc gcccgcgcc atg aac gcc aag gtc gtg gtc gtg ctg gtc ctc      112
                      Met Asn Ala Lys Val Val Val Val Leu Val Leu
                        1           5                   10

gtg ctg acc gcg ctc tgc ctc agc gac ggg aag ccc gtc agc ctg agc      160
Val Leu Thr Ala Leu Cys Leu Ser Asp Gly Lys Pro Val Ser Leu Ser
            15         `         20                  25

tac aga tgc cca tgc cga ttc ttc gaa agc cat gtt gcc aga gcc aac      208
Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser His Val Ala Arg Ala Asn
            30                  35                  40

gtc aag cat ctc aaa att ctc aac act cca aac tgt gcc ctt cag att      256
Val Lys His Leu Lys Ile Leu Asn Thr Pro Asn Cys Ala Leu Gln Ile
            45                  50                  55

gta gcc cgg ctg aag aac aac aac aga caa gtg tgc att gac ccg aag      304
Val Ala Arg Leu Lys Asn Asn Asn Arg Gln Val Cys Ile Asp Pro Lys
60                  65                  70                  75

cta aag tgg att cag gag tac ctg gag aaa gct tta aac aag            346
Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn Lys
            80                  85

taagcacaac agccaaaaag gactttccgc tagacccact cgaggaaaac taaaaccttg     406
tgagagatga aagggcaaag acgtggggga gggggcctta accatgagga ccaggtgtgt     466
gtgtggggtg ggcacattga tctgggatcg ggcctgaggt ttgcagcatt tagaccctgc     526
atttatagca tacggtatga tattgcagct tatattcatc catgccctgt acctgtgcac     586
gttggaactt ttattactgg ggttttttcta agaaagaaat tgtattatca acagcatttt    646
caagcagtta gttccttcat gatcatcaca atcatcatca ttctcattct cattttttaa     706
atcaacgagt acttcaagat ctgaatttgg cttgtttgga gcatctcctc tgctcccctg     766
gggagtctgg gcacagtcag gtggtggctt aacagggagc tggaaaaagt gtcctttctt     826
cagacactga ggctcccgca gcagcgcccc tcccaagagg aaggcctctg tggcactcag     886
ataccgactg gggctggggc gccgccactg ccttcacctc tctttcaaa cctcagtgat      946
tggctctgtg ggctccatgt agaagccact attactggga ctgtctcaga daccccctctc   1006
ccagctattc ctactctctc cccgactccg agagcatgct taatcttgct tctgcttctc    1066
```

32

```
atttctgtag cctgatcagc gccgcaccag ccgggaagag ggtgattgct ggggctcgtg    1126
ccctgcatcc ctctcctccc agggcctgcc ccacagctcg ggccctctgt gagatccgtc    1186
tttggcctcc tccagaatgg agctggccct ctcctgggga tgtgtaatgg tcccctgct     1246
tacccgcaaa agacaagtct ttacagaatc aaatgcaatt ttaaatctga gagctcgctt    1306
gagtgactgg gtttgtgatt gcctctgaag cctatgtatg ccatggaggc actaacaaac    1366
tctgaggttt ccgaaatcag aagcgaaaaa atcagtgaat aaaccatcat cttgccacta    1426
ccccctcctg aagccacagc aggggttcag gttccaatca gaactgttgg caaggtgaca    1486
tttccatgca tagatgcgat ccacagaagg tcctggtggt atttgtaact ttttgcaagg    1546
catttttta tatatatttt tgtgcacatt ttttttttacg attctttaga aaacaaatgt    1606
atttcaaaat atatttatag tcgaacaagt catatatatg aatgagagcc atatgaatgt    1666
cagtagttta tacttctcta ttatctcaaa ctactggcaa tttgtaaaga aatatatatg    1726
atatataaat gtgattgcag cttttcaatg ttagccacag tgtattttt cacttgtact     1786
aaaattgtat caaatgtgac attatatgca ctagcaataa aatgctaatt gtttcatggt    1846
a                                                                     1847


<210> 78
<211> 1160
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (27)...(299)

<400> 78
cctccgacag cctctccaca ggtacc atg aag gtc tcc gcg gca cgc ctc gct     53
                              Met Lys Val Ser Ala Ala Arg Leu Ala
                               1               5

gtc atc ctc att gct act gcc ctc tgc gct cct gca tct gcc tcc cca    101
Val Ile Leu Ile Ala Thr Ala Leu Cys Ala Pro Ala Ser Ala Ser Pro
 10              15                  20                      25

tat tcc tcg gac acc aca ccc tgc tgc ttt gcc tac att gcc cgc cca    149
Tyr Ser Ser Asp Thr Thr Pro Cys Cys Phe Ala Tyr Ile Ala Arg Pro
                30                  35                  40

ctg ccc cgt gcc cac atc aag gag tat ttc tac acc agt ggc aag tgc    197
Leu Pro Arg Ala His Ile Lys Glu Tyr Phe Tyr Thr Ser Gly Lys Cys
            45                  50                  55

tcc aac cca gca gtc gtc ttt gtc acc cga aag aac cgc caa gtg tgt    245
Ser Asn Pro Ala Val Val Phe Val Thr Arg Lys Asn Arg Gln Val Cys
        60                  65                  70

gcc aac cca gag aag aaa tgg gtt cgg gag tac atc aac tct ttg gag    293
Ala Asn Pro Glu Lys Lys Trp Val Arg Glu Tyr Ile Asn Ser Leu Glu
    75                  80                  85

atg agc taggatggag agtccttgaa cctgaactta cacaaatttg cctgtttctg    349
Met Ser
 90

cttgctcttg tcctagcttg ggaggcttcc cctcactatc ctaccccacc cgctccttga    409
agggcccaga ttctgaccac gacgagcagc agttacaaaa accttcccca ggctggacgt    469
ggtggctcag ccttgtaatc ccagcacttt gggaggccaa ggtgggtgga tcacttgagg    529
tcaggagttc gagacagcct ggccaacatg atgaaacccc atgtgtacta aaaatacaaa    589
aaattagccg ggcgtggtag cgggcgcctg tagtcccagc tactcgggag gctgaggcag    649
gagaatggcg tgaacccggg agcggagctt gcagtgagcc gagatcgcgc cactgcactc    709
cagcctgggc gacagagcga gactccgtct caaaaaaaaa aaaaaaaaaa aaaaaatac     769
aaaaattagc cgcgtggtgg cccacgcctg taatcccagc tactcgggag gctaaggcag    829
gaaaattgtt tgaacccagg aggtggaggc tgcagtgagc tgagattgtg ccacttcact    889
```

```
ccagcctggg tgacaaagtg agactccgtc acaacaacaa caacaaaaag cttccccaac      949
taaagcctag aagagcttct gaggcgctgc tttgtcaaaa ggaagtctct aggttctgag     1009
ctctggcttt gccttggctt tgcaagggct ctgtgacaag gaaggaagtc agcatgcctc     1069
tagaggcaag gaagggagga acactgcact cttaagcttc cgccgtctca accctcaca     1129
ggagcttact ggcaaacatg aaaaatcggg g                                     1160
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<210> 79
<211> 696
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (109)...(384)

<400> 79
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ttccccccc cccccccccc ccccgcccga gcacaggaca cagctgggtt ctgaagcttc       60
tgagttctgc agcctcacct ctgagaaaac ctcttttcca ccaatacc atg aag ctc      117
                                                       Met Lys Leu
                                                         1

tgc gtg act gtc ctg tct ctc ctc atg cta gta gct gcc ttc tgc tct      165
Cys Val Thr Val Leu Ser Leu Leu Met Leu Val Ala Ala Phe Cys Ser
      5              10             15

cca gcg ctc tca gca cca atg ggc tca gac cct ccc acc gcc tgc tgc      213
Pro Ala Leu Ser Ala Pro Met Gly Ser Asp Pro Pro Thr Ala Cys Cys
 20              25             30             35

ttt tct tac acc gcg agg aag ctt cct cgc aac ttt gtg gta gat tac      261
Phe Ser Tyr Thr Ala Arg Lys Leu Pro Arg Asn Phe Val Val Asp Tyr
             40             45             50

tat gag acc agc agc ctc tgc tcc cag cca gct gtg gta ttc caa acc      309
Tyr Glu Thr Ser Ser Leu Cys Ser Gln Pro Ala Val Val Phe Gln Thr
             55             60             65

aaa aga agc aag caa gtc tgt gct gat ccc agt gaa tcc tgg gtc cag      357
Lys Arg Ser Lys Gln Val Cys Ala Asp Pro Ser Glu Ser Trp Val Gln
         70             75             80

gag tac gtg tat gac ctg gaa ctg aac tgagctgctc agagacagga            404
Glu Tyr Val Tyr Asp Leu Glu Leu Asn
         85             90

agtcttcagg gaaggtcacc tgagcccgga tgcttctcca tgagacacat ctcctccata     464
ctcaggactc ctctccgcag ttcctgtccc ttctcttaat ttaatctttt ttatgtgccg     524
tgttattgta ttaggtgtca tttccattat ttatattagt ttagccaaag gataagtgtc     584
ctatggggat ggtccactgt cactgtttct ctgctgttgc aaatacatgg ataacacatt     644
tgattctgtg tgttttccat aataaaactt taaaataaaa tgcagacagt ta             696
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<210> 80
<211> 2738
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (123)...(353)

34

<400> 80
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gaacaaccca gaaaccttca cctctcatgc tgaagctcac acccttgccc tccaagatga      60
aggtttctgc agcgcttctg tgcctgctgc tcatggcagc cactttcagc cctcagggac     120
tt gct cag cca gat tca gtt tcc att cca atc acc tgc tgc ttt aac       167
   Ala Gln Pro Asp Ser Val Ser Ile Pro Ile Thr Cys Cys Phe Asn
   1               5                   10                  15

gtg atc aat agg aaa att cct atc cag agg ctg gag agc tac aca aga      215
Val Ile Asn Arg Lys Ile Pro Ile Gln Arg Leu Glu Ser Tyr Thr Arg
                20                  25                  30

atc acc aac atc caa tgt ccc aag gaa gct gtg atc ttc aag acc caa      263
Ile Thr Asn Ile Gln Cys Pro Lys Glu Ala Val Ile Phe Lys Thr Gln
            35                  40                  45

cgg ggc aag gag gtc tgt gct gac ccc aag gag aga tgg gtc agg gat      311
Arg Gly Lys Glu Val Cys Ala Asp Pro Lys Glu Arg Trp Val Arg Asp
        50                  55                  60

tcc atg aag cat ctg gac caa ata ttt caa aat ctg aag cca            353
Ser Met Lys His Leu Asp Gln Ile Phe Gln Asn Leu Lys Pro
        65                  70                  75

tgagccttca tacatggact gagagtcaga gcttgaagaa aagcttattt attttcccca     413
acctccccca ggtgcagtgt gacattattt tattataaca tccacaaaga gattattttt     473
aaataattta aagcataata tttcttaaaa agtatttaat tatatttaag ttgttgatgt     533
tttaactcta tctgtcatac atcctagtga atgtaaaatg caaaatcctg gtgatgtgtt     593
ttttgttttt gttttcctgt gagctcaact aagttcacgg caaaatgtca ttgttctccc     653
tcctacctgt ctgtagtgtt gtggggtcct cccatggatc atcaaggtga aacactttgg     713
tattctttgg caatcagtgc tcctgtaagt caaatgtgtg ctttgtactg ctgttgttga     773
aattgatgtt actgtatata actatggaat tttgaaaaaa aatttcaaaa agaaaaaaat     833
atatataatt taaaactaag aaaaaaaaaa aaaaaaaaaa aaaaggtttt ctattgactt     893
gggttaatcg tgtgaccgcg gtggctggca cgaaattgac caaccctggg gttagtatag     953
cttagttaaa ctttcgttta ttgctaaagg ttaatcactg ctgtttcccg tgggggtgtg    1013
gctaggctaa gcgttttgag ctgcattgct gcgtgcttga tgcttgtccc ttttgatcgt    1073
ggtgatttag agggtgaact cactggaatg gggatgcttg catgtgtaat cttactaaga    1133
gctaatagaa aggctaggac caaaccagaa acctccaatt ctcatgtgga agcccatgcc    1193
ctcaccctcc aacatgaaag cctctgcagc acttctgtgt ctgctgctca cagcagctgc    1253
tttcagcccc caggggcttg ctcagccagt tgggattaat acttcaacta cctgctgcta    1313
cagatttatc aataagaaaa tccctaagca gaggctggag agctacagaa ggaccaccag    1373
tagccactgt cccggggaag ctgtaatctt caagaccaaa ctggacaagg agatctgtgc    1433
tgaccccaca cagaagtggg tccaggactt tatgaagcac ctggacaaga aaacccaaac    1493
tccaaagctt tgaacattca tgactgaact gaaaacaagc catgacttga aaacaaata     1553
atttgtatac cctgtccttt ctcagagtgg ttctgagatt attttaatct aattctaagg    1613
aatatgagct ttatgtaata atgtgaatca tggtttttct tagtagattt taaaagttat    1673
taatatttta atttaatctt ccatggattt tggtgggttt tgaacataaa gccttggatg    1733
tatatgtcat ctcagtgctg taaaaactgt gggatgctcc tcccttctct acctcatggg    1793
ggtattgtat aagtccttgc aagaatcagt gcaaagattt gctttaattg ttaagatatg    1853
atgtccctat ggaagcatat tgttattata taattacata tttgcatatg tatgactccc    1913
aaattttcac ataaaataga tttttgtata acaaaaaaaa aaaaaaaaa aaggacacgg     1973
gcagcagaca gtggtcagtc ctttcttggc tctgctgaca ctcgagccca cattccgtca    2033
cctgctcaga atcatgcagg tctccactgc tgcccttgct gtcctcctct gcaccatggc    2093
tctctgcaac cagttctctg catcacttgc tgctgacacg ccgaccgcct gctgcttcag    2153
ctacacctcc cggcagattc cacagaattt catagctgac tactttgaga cgagcagcca    2213
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cagtgaggag tgggtccaga aatatgtcag cgacctggag ctgagtgcct gaggggtcca    2333
gaagcttcga ggcccagcga cctcggtggg cccagtgggg aggagcagga gcctgagcct    2393
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ccacactgtg ggactcttct taacttaaat tttaatttat ttatactatt tagttttgt     2513
aatttatttt cgatttcaca gtgtgtttgt gattgtttgc tctgagagtt cccctgtccc    2573
ctcccccttc cctcacaccg cgtctggtga caaccgagtg ctgtcatca gcctgtgtag     2633
gcagtcatgg caccaaagcc accagactga caaatgtgta tcggatgctt ttgttcaggg    2693
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<210> 81
<211> 1085
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (329)...(625)

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ctggggttag tatagcttag ttaaactttc gtttattgct aaaggttaat cactgctgtt     120
tcccgtgggg gtgtggctag gctaagcgtt ttgagctgca ttgctgcgtg cttgatgctt     180
gtcccttttg atcgtggtga tttagagggt gaactcactg gaatggggat gcttgcatgt     240
gtaatcttac taagagctaa tagaaaggct aggaccaaac cagaaacctc caattctcat     300
gtggaagccc atgccctcac cctccaac atg aaa gcc tct gca gca ctt ctg        352
                                 Met Lys Ala Ser Ala Ala Leu Leu
                                  1               5

tgt ctg ctg ctc aca gca gct gct ttc agc ccc cag ggg ctt gct cag      400
Cys Leu Leu Leu Thr Ala Ala Ala Phe Ser Pro Gln Gly Leu Ala Gln
     10               15                 20

cca gtt ggg att aat act tca act acc tgc tgc tac aga ttt atc aat      448
Pro Val Gly Ile Asn Thr Ser Thr Thr Cys Cys Tyr Arg Phe Ile Asn
 25               30                 35                 40

aag aaa atc cct aag cag agg ctg gag agc tac aga agg acc acc agt      496
Lys Lys Ile Pro Lys Gln Arg Leu Glu Ser Tyr Arg Arg Thr Thr Ser
             45                 50                 55

agc cac tgt ccc cgg gaa gct gta atc ttc aag acc aaa ctg gac aag      544
Ser His Cys Pro Arg Glu Ala Val Ile Phe Lys Thr Lys Leu Asp Lys
             60                 65                 70

gag atc tgt gct gac ccc aca cag aag tgg gtc cag gac ttt atg aag      592
Glu Ile Cys Ala Asp Pro Thr Gln Lys Trp Val Gln Asp Phe Met Lys
         75                 80                 85

cac ctg gac aag aaa acc caa act cca aag ctt tgaacattca tgactgaact    645
His Leu Asp Lys Lys Thr Gln Thr Pro Lys Leu
         90                 95

gaaaacaagc catgacttga gaaacaaata atttgtatac cctgtccttt ctcagagtgg     705
ttctgagatt attttaatct aattctaagg aatatgagct ttatgtaata atgtgaatca     765
tggtttttct tagtagattt taaaagttat taatatttta atttaatctt ccatggattt     825
tggtgggttt tgaacataaa gccttggatg tatatgtcat ctcagtgctg taaaaactgt     885
gggatgctcc tcccttctct acctcatggg ggtattgtat aagtccttgc aagaatcagt     945
gcaaagattt gctttaattg ttaagatatg atgtccctat ggaagcatat tgttattata    1005
taattacata tttgcatatg tatgactccc aaattttcac ataaaataga tttttgtata    1065
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<210> 82
<211> 775
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (84)...(359)
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36

<400> 82
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cattccgtca cctgctcaga atc atg cag gtc tcc act gct gcc ctt gct gtc     113
                         Met Gln Val Ser Thr Ala Ala Leu Ala Val
                          1               5                    10      .
```
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ctc ctc tgc acc atg gct ctc tgc aac cag ttc tct gca tca ctt gct      161
Leu Leu Cys Thr Met Ala Leu Cys Asn Gln Phe Ser Ala Ser Leu Ala
             15                  20                  25
```
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gct gac acg ccg acc gcc tgc tgc ttc agc tac acc tcc cgg cag att      209
Ala Asp Thr Pro Thr Ala Cys Cys Phe Ser Tyr Thr Ser Arg Gln Ile
            30                  35                  40
```
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cca cag aat ttc ata gct gac tac ttt gag acg agc agc cag tgc tcc      257
Pro Gln Asn Phe Ile Ala Asp Tyr Phe Glu Thr Ser Ser Gln Cys Ser
            45                  50                  55
```
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aag ccc ggt gtc atc ttc cta acc aag cga agc cgg cag gtc tgt gct      305
Lys Pro Gly Val Ile Phe Leu Thr Lys Arg Ser Arg Gln Val Cys Ala
        60                  65                  70
```
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gac ccc agt gag gag tgg gtc cag aaa tat gtc agc gac ctg gag ctg      353
Asp Pro Ser Glu Glu Trp Val Gln Lys Tyr Val Ser Asp Leu Glu Leu
 75                  80                  85                  90
```
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agt gcc tgaggggtcc agaagcttcg aggcccagcg acctcggtgg gcccagtggg      409
Ser Ala
```
```
gaggagcagg agcctgagcc ttgggaacat gcgtgtgacc tccacagcta cctcttctat      469
ggactggttg ttgccaaaca gccacactgt gggactcttc ttaacttaaa ttttaattta      529
tttatactat ttagttttg taatttattt tcgattcac agtgtgtttg tgattgtttg       589
ctctgagagt tcccctgtcc cctcccctt ccctcacacc gcgtctggtg acaaccgagt      649
ggctgtcatc agcctgtgta ggcagtcatg gcaccaaagc caccagactg acaaatgtgt      709
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aaaggt                                                               775
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<210> 83
<211> 98
<212> PRT
<213> Homo sapiens

<400> 83
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 1               5                  10                  15
Phe Asn Pro Gln Gly Leu Ala Gln Pro Asp Ala Leu Asn Val Pro Ser
                20                  25                  30
Thr Cys Cys Phe Thr Phe Ser Ser Lys Lys Ile Ser Leu Gln Arg Leu
         35                  40                  45
Lys Ser Tyr Val Ile Thr Thr Ser Arg Cys Pro Gln Lys Ala Val Ile
     50                  55                  60
Phe Arg Thr Lys Leu Gly Lys Glu Ile Cys Ala Asp Pro Lys Glu Lys
 65                  70                  75                  80
Trp Val Gln Asn Tyr Met Lys His Leu Gly Arg Lys Ala His Thr Leu
                 85                  90                  95
Lys Thr
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<210> 84
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic chemokine peptide variant

<400> 84
Leu Asp Pro Lys Gln Lys Trp Ile Gln Cys
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<210> 85
<211> 4
<212> PRT
<213> Homo sapiens

<400> 85
Trp Val Gln Cys
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<210> 86
<211> 4
<212> PRT
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<220>
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<400> 86
Trp Ile Gln Cys
 1



<210> 87
<211> 10
<212> PRT
<213> Homo sapiens

<400> 87
Ser Tyr Arg Arg Ile Thr Ser Ser Lys Cys
 1               5                   10



<210> 88
<211> 6
<212> PRT
<213> Homo sapiens

<400> 88
Cys Pro Lys Glu Ala Val
 1               5



<210> 89
<211> 5
<212> PRT
<213> Homo sapiens
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<400> 89
Ser Tyr Arg Arg Ile
 1   5

<210> 90
<211> 5
<212> PRT
<213> Homo sapiens

<400> 90
Thr Ser Ser Lys Cys
 1   5

<210> 91
<211> 9
<212> PRT
<213> Homo sapiens

<400> 91
Asp Tyr Phe Glu Thr Ser Ser Gln Cys
 1   5

<210> 92
<211> 6
<212> PRT
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<400> 92
Cys Ser Lys Pro Gly Val
 1   5

<210> 93
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic chemokine peptide variant

<400> 93
Cys Ser Tyr Arg Arg Ile Thr Ser Ser Lys Ser Pro Lys Glu Ala Val
 1   5   10   15
Cys

<210> 94
<211> 9
<212> PRT
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<400> 94
Ser Tyr Arg Arg Ile Thr Ser Ser Lys
 1   5

<210> 95
<211> 11
<212> PRT
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<400> 95
Cys Gln Val Trp Lys Gln Lys Pro Asp Ala Cys
 1   5   10

<210> 96
<211> 4
<212> PRT
<213> Homo sapiens

<400> 96
Lys Lys Phe Lys
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<210> 97
<211> 4
<212> PRT
<213> Homo sapiens

<400> 97
Arg Lys Pro Lys
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<210> 98
<211> 4
<212> PRT
<213> Homo sapiens

<400> 98
Lys Arg Phe Lys
 1

<210> 99
<211> 13
<212> PRT
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<400> 99
Leu Tyr Ile Asp Phe Arg Gln Asp Leu Gly Trp Lys Trp
 1   5   10

<210> 100
<211> 11
<212> PRT
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<400> 100
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<210> 101
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<400> 101
Val Tyr Tyr Val Gly Arg Lys
 1   5

<210> 102
<211> 13
<212> PRT
<213> Homo sapiens

<400> 102
Lys Val Glu Gln Leu Ser Asn Met Val Val Lys Ser Cys
 1   5   10

<210> 103
<211> 15
<212> PRT
<213> Homo sapiens

<400> 103
His Leu Lys Ile Leu Asn Thr Pro Asn Cys Ala Leu Gln Ile Val
 1   5   10   15

<210> 104
<211> 23
<212> PRT
<213> Homo sapiens

<400> 104
Tyr Asn Phe Thr Asn Arg Lys Ile Ser Val Gln Arg Leu Ala Ser Tyr
 1   5   10   15
Arg Arg Ile Thr Ser Ser Lys
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<210> 105
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic chemokine peptide variant

<400> 105
Ser Tyr Arg Arg Ile Thr Ser Ser Lys Ser Pro Lys Glu Ala Val
 1   5   10   15

<210> 106
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 106
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 1   5   10

<210> 107
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 107
Cys Trp Val Gln Cys
 1   5

<210> 108
<211> 8
<212> PRT
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<220>
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<400> 108
Cys Lys Gln Lys Trp Val Gln Cys
 1   5

<210> 109
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 109
Cys Ser Tyr Arg Arg Ile Thr Ser Ser Lys Cys Pro Lys Glu Ala Val
 1   5   10   15
Cys

<210> 110
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 110
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 1   5   10   15
Cys

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<210> 111
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
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<400> 111
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 1               5                  10                  15
Cys
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